

Application Serial No. 09/335,363
Customer No. 26021
Reply to Office Action dated March 23, 2004

PATENT
1884-39D (81841.0019)

Listing of Claims:

1. (Previously presented) A clinical chemistry system comprising:
a storing station that receives and stores a plurality of primary sample tubes;
a sampling station including a sample probe that draws a volume of sample from a primary sample tube and transfers the volume to a secondary tube;
a carriage mechanism, comprising a gripper with a pair of opposed arms that close on one of the plurality of primary sample tubes, grips it, lifts it, and transports the primary sample tube from the storing station to the sampling station and returns the primary sample tube from the sampling station to the storing station;
a first and a second secondary tube transfer station, respectively, for coupling to first and second analyzers, the first and second sample tube transfer stations adapted to move the secondary sample tube from a continuous transport mechanism to be received by a corresponding one of the first and second analyzers;
and
the continuous transport mechanism for moving filled secondary tubes to a selected one of the first and second secondary tube transfer stations.
2. (Original) The system of claim 1, further comprising:
a sample identification reader for determining sample identification information from a primary sample tube; and
a host computer, the host computer receiving sample identification information and issuing a sample testing message.
3. (Original) The system of claim 2, wherein the sample testing message identifies a number of secondary tubes to receive volumes of a sample.

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4. (Original) The system of claim 2, wherein the sample testing message identifies a test to be performed by one of the first and the second analyzers.
5. (Original) The system of claim 3, wherein the host computer receives the sample identification information output by the sample identification reader.
6. (Original) The system of claim 4, wherein the host computer receives the sample identification information output from a first or second analyzer.
7. (Original) The system of claim 1, further comprising:
 - a first clinical chemistry analyzer coupled to receive secondary tubes from the first secondary tube transfer station;
 - a sample identification reader for determining sample identification information from a primary sample tube; and
 - a host computer, the host computer receiving sample identification information and issuing a sample testing message.
8. (Original) The system of claim 7, further comprising:
 - a controller that controls, directly or indirectly, the reading of sample identification information and that controls, directly or indirectly, the first secondary tube transfer station,
 - wherein the controller transfers sample identification information to the first clinical chemistry analyzer in conjunction with a transfer of a secondary tube.
9. (Original) The system of claim 7, wherein the first clinical chemistry analyzer sends sample identification information to the host computer and receives test instructions from the host computer.

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10. (Original) The system of claim 1, wherein the storing station receives and stores trays of sample tubes.

11. (Original) The system of claim 10, wherein the storing station includes at least one immediate storage tube location and an associated alert mechanism for identifying when an immediate sample is loaded in the system.

12. (Original) The system of claim 10, wherein the sampling station comprises a bar code reader for reading a bar code from a label of a primary sample tube and the sample probe comprises a cap piercer for removing liquid from the primary sample tube without removing a cap from the primary sample tube.

13. (Original) The system of claim 1, wherein the continuous transport mechanism is a continuous belt that travels adjacent the sampling station and the first and second secondary tube transfer stations.

14. (Original) The system of claim 13, wherein a plurality of secondary tube carriages are mounted to the belt, each secondary tube carriage adapted for carrying a secondary tube.

15. (Original) The system of claim 14, wherein the secondary tube carriages provide lateral access to a secondary tube within the secondary tube carriage from at least two sides of the secondary tube.

16. (Original) The system of claim 14, wherein the secondary tube carriages provide lateral access to a secondary tube within the secondary tube carriage from at least two opposite faces of the secondary tube carriage.

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17. (Original) The system of claim 14, wherein the secondary tube carriages hold a secondary tube in place with resilient clips.

18. (Original) The system of claim 14, wherein the secondary tube carriages hold a secondary tube in place using clips that engage an upper and lower portion of a secondary tube.

19. (Original) The system of claim 18, wherein the secondary tube carriages provide lateral access to a secondary tube within the secondary tube carriage from at least two opposite faces of the secondary tube carriage.

20. (Previously presented) A clinical chemistry system comprising:
a sample identification station comprising a sample identification mechanism for determining sample identification information from a primary sample tube;
a transferring mechanism for transferring a volume of the sample from the primary sample tube into a secondary sample tube;
a carriage mechanism, comprising a gripper with a pair of opposed arms that close on, grips, and lifts the primary sample tube contained in a holder, whereby the primary sample tube separates from the holder, and transports the primary sample tube to the sample identification station;

a continuous transport mechanism for moving secondary sample tubes within the system;

first and second sample tube transfer stations, respectively, for coupling to first and second analyzers, the first and second sample tube transfer stations adapted to move the secondary sample tube from the continuous transport mechanism to an interface of a first or second analyzer; and

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a host computer, the host computer receiving sample identification information and issuing a sample testing message that includes one of the first and second analyzers as a destination.

21. (Original) The system of claim 20, wherein the destination is determined in accordance with a previous test result transmitted from one of a first and second analyzer to the host computer.

22. (Previously presented) The system of claim 20, further comprising:
a controller that controls the determining of sample identification information and that controls the first sample tube transfer station,
wherein the controller transfers sample identification information to the first clinical chemistry analyzer in conjunction with a transfer of a secondary tube.

23. (Original) The system of claim 22, wherein the first clinical chemistry analyzer sends sample identification information to the host computer and receives test instructions from the host computer.

24. (Original) The system of claim 20, further comprising at least one immediate storage tube location and an associated alert mechanism for identifying when an immediate sample is loaded in the system.

25. (Previously presented) The system of claim 20, wherein the sample identification mechanism comprises a bar code reader for reading a bar code from a label of a primary sample tube.

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26. (Original) The system of claim 20, wherein the continuous transport mechanism is a continuous belt that travels adjacent the first and second sample tube transfer stations.

27. (Previously presented) The system of claim 26, wherein a plurality of sample tube carriages are mounted to the belt, each sample tube carriage adapted for carrying the secondary sample tube.

28. (Previously presented) The system of claim 27, wherein the sample tube carriages provide lateral access to the secondary sample tube within the sample tube carriage from at least two sides of the secondary sample tube.

29. (Previously presented) The system of claim 27, wherein the sample tube carriages provide lateral access to the secondary sample tube within the sample tube carriage from at least two opposite faces of the secondary sample tube carriage.

30. (Previously presented) The system of claim 27, wherein the sample tube carriages hold the secondary sample tube in place with resilient clips.

31. (Previously presented) The system of claim 27, wherein the sample tube carriages hold the secondary sample tube in place using clips that engage an upper and lower portion of a sample tube.

32. (Previously presented) The system of claim 31, wherein the sample tube carriages provide lateral access to the secondary sample tube within the sample tube carriage from at least two opposite faces of the sample tube carriage.

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33. (Original) The clinical chemistry system of claim 20, wherein the sample identification mechanism further comprises:

an identification information reading device for reading sample identification information from the primary tube; and

a tube spinner for holding and spinning the primary sample tube, whereby the sample identification information can be accessed and determined by the identification information reading device.

34. (Original) The clinical chemistry system of claim 33, wherein the sample identification information reading device is a bar code reader.